

In the bulletin of 1907 it was stated that Brood XX was of doubtful occurrence in Wise County. In a recent letter Dr. Marlatt reports that after an examination of the old records he concludes that this brood really does not exist in Virginia, but, on the other hand, the occurrence of Brood XIX in the costal plain of the state seems to be well substantiated.

14. *Melampsalta calliope* (Walker).

Cicada parvula Say.

Figured in JOURNAL, N. Y. Entomological Society, June, 1920, Pl. 5, figs. 14 and 15; Howard's Insect Book, Pl. 28, fig. 8.

Fairfax County, opposite Plummer's Island in the Potomac, August 9, 1915, female, collected by Mr. H. S. Barber while looking for insects at night. Oak Grove, Loudoun County, July 13, 1920, male, in collection of Mr. Louis A. Stearns, who writes: "The electric train was stopped at the Oak Grove station, when the specimen, which I am forwarding to you, came in the open window and alighted on my coat sleeve."

EXPLANATION OF PLATE IV.

Fig. 1. *Tibicen robinsoniana* Davis. Type.

Fig. 2. *Tibicen robinsoniana* Davis. Enlarged.

Fig. 3. *Tibicen linnei* (Smith & Grossbeck). Cotype.

Fig. 4. *Tibicen pruinosus* (Say). Enlarged.

A REVIEW OF THE GENUS *PÆCILONOTA* AS FOUND IN AMERICA NORTH OF MEXICO (COLEOPTERA, FAMILY BUPRESTIDÆ) WITH DESCRIPTIONS OF NEW SPECIES.

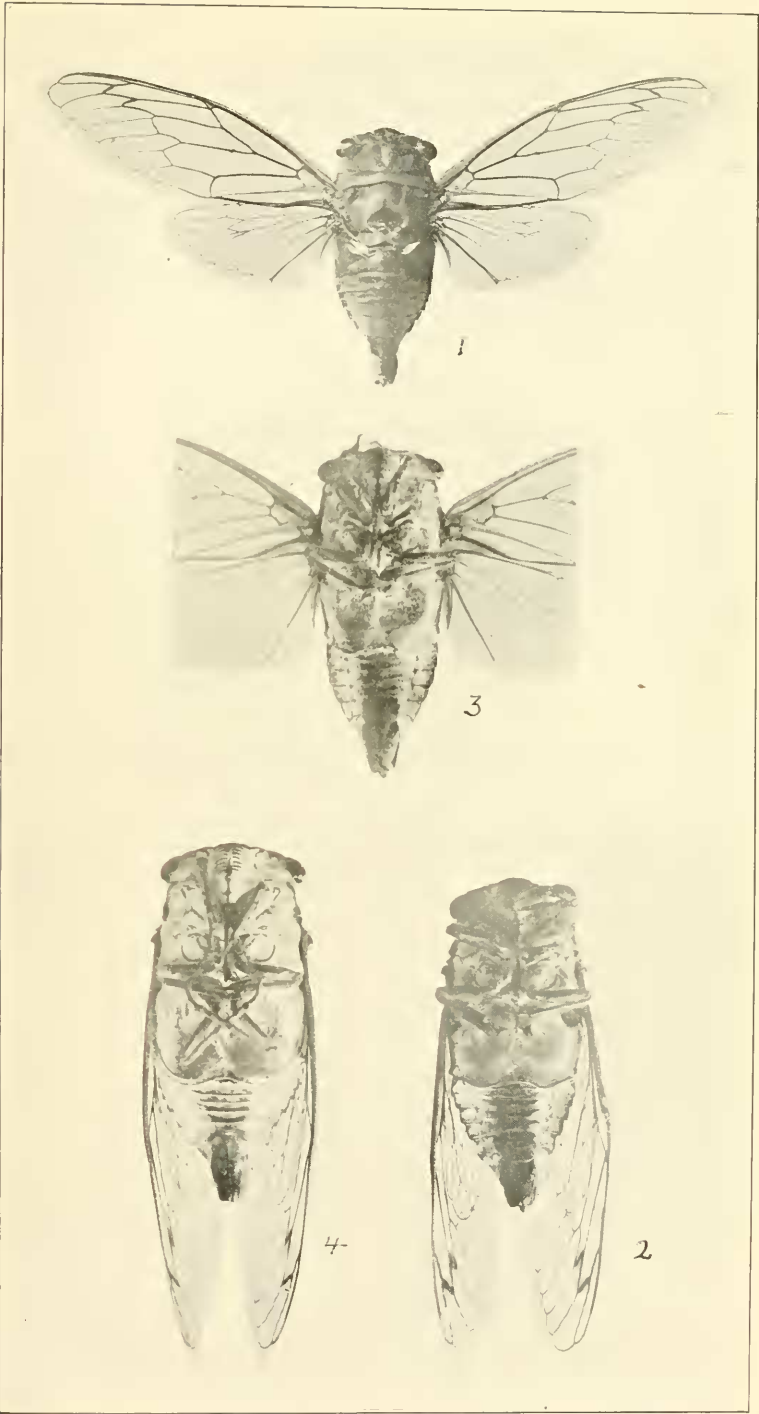
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The genus *Pæcilonota* was erected by Eschscholtz¹ in 1829.

The species are closely related to those of the genus *Dicerca*, but may be separated at once by the broad scutellum.

¹ Friedrich Eschscholtz, Zoologische Atlas I, Berlin, 1829, page 9.



CICADIDÆ.

Up to the present time, despite the fact that only nine species have been described from our territory, there has been much confusion and many specimens have been sent out erroneously named. Of the nine described species four must be placed in synonymy and the status of a fifth (*debilis* Lec.) is doubtful.

A considerable series of species belonging to this genus has been examined from all parts of the United States and Canada, and where it was impossible to examine specimens, as in the case of *debilis* Lec., and *bridwelli* Van Dyke, photographs and drawings were obtained.

The following names have been applied to species occurring in the United States:

1. *P. thureura* Say 1832.
2. *P. cyanipes* Say 1836.
3. *P. costicollis* Gory 1841.
4. *P. erecta* Gory 1841.
5. *P. ferrea* Melsheimer 1844.
6. *P. debilis* Leconte 1859.
7. *P. cupripes* Casey 1909.
8. *P. parviceps* Casey 1909.
9. *P. bridwelli* Van Dyke 1918.

Of the above names, numbers 1, 2, 5 and 9 represent valid species, and from the evidence at hand number 6 would seem to represent a distinct species. In addition to the above, two very distinct species are here described for the first time, and a third species is mentioned which may be but a geographical variety.

Over two hundred specimens have been examined, and with the exception of *P. cyanipes* Say, which shows wide variation, the various species seem to be quite constant and should be easily identified with the aid of the descriptions and figures here presented.

The sexes may be separated by the size and shape of the emargination of the last ventral segment.

The habits of the species, so far as known, are quite similar. The eggs are deposited in the bark of trees and the larvæ mine in the cambium and trunk of the hosts.

The larvæ are of the typical flat-head type, having the first segment distinctly larger and broader than those which follow. The dorsal and

ventral plates of the first segment are roughened and chitinous, the surface is dull. The dorsal plate is marked with an inverted V and the ventral plate is marked with a simple bisecting line.

The larvæ are all wood borers and confine their attack to trees belonging to the genus *Salix* and *Populus*.

Although rarely common, certain members of the genus are widely distributed in the United States, and specimens have been taken as far north as Yukon.

Pæcilonota thureura Say. . Plate V, figures 9 and 10.

This species was first described by Say¹ and placed in the genus *Buprestis*. The original description follows:

“*B. thureura*—Scutel transversely elongated.

“Inhabits Louisiana.

“Body brassy greenish, with dilated unequal impressed punctures: vertex with an acute, longitudinal, impressed line: antennæ green: thorax with the punctures more confluent each side, and a longitudinal, glabrous line: scutel transversely elongated, subbilobate: elytra with punctured striæ: interstitial lines irregularly punctured and with unequal and irregular glabrous spaces: edge not obviously serrate; tip with narrow subemarginate truncation: beneath cupreous, anal segment emarginate. Length less than four fifths of an inch.”

“The breadth of the scutel is considerably more than double its length. It resembles *lurida* F. (which is *carrosa* Dej.) but the extraordinary latitude of the scutel distinguishes it; that the species has also bidentate elytra, and a tridentate anal segment.”

The following is a more complete description of *P. thureura*, drawn up from a large series. Form oblong oval; dark cupreous brown above, with numerous elongate, quadrate, elevated, smooth, shining spaces of a dark green color, more or less evenly distributed over the elytra; on some specimens these spots have a tendency to coalesce, forming irregular patches; vertex with a smooth elevated line extending downward and branched on the front, forming a Y; an impressed line extends down the center of the stem of the Y; front deeply, rugously punctured; antennæ, first joint cylindrical, cupreous; joints 2 to 10 dark bluish green, joints 4 to 10 flattened; clypeus triangularly

¹ Thomas Say, *New Species of North American Insects—Chiefly from Louisiana, New Harmony (Indiana)*, 1832, page 3.

emarginate; thorax bisected by a broad, elevated smooth space, dark greenish-black in color; closely, coarsely punctured, each side, the punctures becoming larger and more irregular toward the lateral margins; irregular elevated, very dark green, smooth spaces each side. Elytra with prominent, elevated, dark margins, entire for the first half of the distance from the humeri; the last half the distance this ridge is broken by cupreous punctures, giving the edge a slightly serrate appearance; elytra wider than the thorax, sides slightly sinuous, widest just behind the middle and narrowing rapidly to the tips, which are bidentate, but not as conspicuously so as in *ferrea*. Underneath coppery bronze, tinged with green about the edges; coarsely, rugosely punctate; clothed with fine short recumbent, white hairs; each ventral segment with a smooth area along the anterior margin, these areas broader at the middle, tapering toward the lateral margins and ending before reaching the margin; balance of the abdomen coarsely and confluent punctured. (A few of the punctures filled with a white, powdery substance, probably more pronounced in fresh specimens.) Tarsi and legs dark bluish-bronze.

Male (Pl. V, fig. 9) prosternum finely, sparsely punctate; clothed, especially laterally, with long, yellowish hairs. Last ventral segment (Pl. VII, fig. 3) with a wide, deep, crescent-like emargination. The edges of the last ventral segment compressed into a prominent, thin, plate-like border, which is also prominent on the lateral margins of the other ventral segments, present but less pronounced in the female and is lacking in *P. ferrea*.

Length, 12-14 mm.; width, 4.80-5.75 mm.

Female (Pl. V, fig. 10) prosternum less pubescent; last ventral (Pl. VII, fig. 4) with a slight, broad emargination.

Length, 14.50-18.50 mm.; width, 5.75-7.80 mm.

Specimens have been examined from New Orleans, Louisiana; Wallace and Coldwater, Kansas; Elkheart, Indiana; Ames, Iowa; Cicero,¹ Illinois; Pimmit Run, Virginia, and Awame, Manitoba.

The specimens examined show little variation except in size. In one or two specimens the elytral apices are slightly more prolonged and a little narrower than in typical specimens.

Kansas seems to be the optimum region for the species. Mr. Warren Knaus writes: "Many years ago I took *P. thurcura* in considerable

¹ Not typical.

numbers on willows at Wallace, Kansas, on the Smoky Hill River in western Kansas during July. One specimen was beaten from willow in Comanche County, southwestern Kansas."

The dates on specimens examined were: Kansas, July 1, 2, 3; Iowa, July 28; Illinois, August 3 (specimen not typical); Awame, Manitoba, July 7; Virginia, June 27. The other specimens bore no date of capture.

The general distribution seems to be from Manitoba and Lake Michigan, south to the Gulf of Mexico and westward to the extreme western boundary of Kansas.

Pæcilonota cyanipes Say. Plate VI, figs. 13 and 14 and Plate VII, figs. 6 and 8.

The original description as set down by Say¹ is:

"*B. cyanipes*—Elytra at tip narrowed, entire and divaricated; scutel transverse."

"Inhabits Missouri."

"Body dark cupreous, tinged with greenish; head, before the antennæ, green; antennæ dark green; thorax confluent punctured; scutel large, angulated each side behind, and excavated in the middle; elytra with darker abbreviated, elevated irregular lines; tips very slightly recurved, divaricated, entire or obsoletely truncate; beneath bright cupreous, not canaliculate, tail deeply emarginate; tarsi blue."

"Length two fifths of an inch." (10 mm.)

"Missouri . . . resembles the *divaricata* in the manner of terminating of the elytra."

The examination of a considerable number of specimens has revealed the fact that this species varies considerably; the elytra are narrowed, prolonged and divaricated; the extreme tips are truncate or very slightly concentric, tending to be bisinuate; scutellum transverse and extremely variable in form. Color varies from cupreous to coppery-green to dull black and dark purple. The front may be green or coppery without regard to the sex. Antennæ green, first joint often coppery. Thorax coarsely, confluent punctured, more so laterally, with an elevated, smooth median line; elytra sparsely punctate, prominently striate, tips usually coppery; under parts cupreous, sometimes bright, sometimes dull. Fresh specimens often covered with a cotton-like sub-

¹ Say, Thomas, Jour. Acad. Nat. Sci. Phila., 1823, Vol. III, p. 164.

stance; tibia coppery or dull grayish; tarsi bluish, greenish or bluish-green.

Length, males, 9.75-16.3 mm.; width, 3.25-6.60 mm.

Length, females, 11.25-18.00 mm.; width, 3.90-7.00 mm.

This is the most common species of the genus found in the United States, but very little concerning its habits and life history seems to be known. Mr. H. B. Kirk has reared it from *Saperda concolor* galls on large-toothed aspen (*Populus grandidentata*), collected at Mulford, Pennsylvania. Several writers state that specimens have been "beaten from poplar" and "taken resting on poplars."

Blanchard¹ says:

"*P. cyanipes* Say. One specimen on the trunk of a poplar. June, Mass."

Frost (letter).

"*P. cyanipes*; Providence, R. I., beaten from poplar by I. V. Nylen."

Distribution: Awame, Manitoba, VII-2; Ontario; Edmonton, Alberta, VII-30; Millers, Ind., VII-2; Wales, Me., VIII-3; New Jersey; Framingham, Mass., VI-6, *Salix*; Cicero, Ill., VIII-1; Buffalo, N. Y.; White Fish Point, L. S.; Texas; Isle Royal, Mich.; and Awame, Manitoba (Swaine), August 9. Blatchley reports this species as occurring on pine, sycamore, and ash in northern Indiana. It is very doubtful if it breeds in any tree other than *Salix* and *Populus*.

Pæcilonota cyanipes var. **californica** new variety. Plate V, figs. 7 and 8.

A western form differentiated by a broader, more robust body; thorax angulated and widest at the middle, more coarsely and unevenly punctured; apices of elytra less prolonged and less divaricated, always cupreous. The last ventral segment differs as shown in figures 5 and 7 of Plate VII. Some fifty specimens examined, all are very uniform in color and shape except a single example from Yukon (which is almost black). General ground color is coppery bronze with elongate raised areas of a greenish color on the elytra.

Taken on aspen (*Populus tremuloides*) at Vade, California, by Mr. H. E. Burke. Quite common on the same tree at Strawberry and Phillips Station on the Placerville-Tahoe road, Eldorado County, California, where the author took some thirty specimens in about one hour

¹ Blanchard, F., *Entomologia Americana*, Vol. V, 1889, page 30.

on July 4, 1919. A number of specimens were seen from Cascade,¹ Idaho, and one from Iron County, Utah; Humbolt County, California; Klamath Falls and Ashland, Oregon.

The larvæ, pupæ and mature adults of this species were dug from living aspens (*Populus tremuloides*) in Grant County, Oregon, June, 1914. They were found most frequently in the smaller trees, where they caused patches of the bark to turn black and at times peel off. Their mines have a tendency to extend horizontally much more than vertically, causing swellings on the trunk. The trees seem to suffer little from the attacks, as they retain their thrifty appearance in spite of the borers, whose mines often extend to the very center of the tree.

Enemies. Two species of parasitic Hymenoptera were taken from the mines.

Pœcilonota costicollis Laporte and Gory.²

This species was described and figured by Laporte and Gory as *Buprestis costicollis* in 1841.

It is stated that the species was taken in large numbers in Louisiana. It is undoubtedly identical with *P. thurecura*, which Say described from Louisiana in 1832.

Pœcilonota erecta Gory.

The (*Buprestis*) *P. erecta* of Gory was described³ from a specimen named but not described by Dejean in 1837. It is impossible to separate *erecta* from the variable *cyanipes* of Say. It has been placed in synonymy by many others and attempts have been made from time to time to revive the name as a variety and occasionally to give it specific standing. However, no author has yet brought out any definite character by which it can be separated from *cyanipes*. The latter being a species of very wide distribution is bound to present considerable variation, and, as pointed out in the discussion of that species, there are several color phases; but if one attempts to base a species on color

¹ Specimens from Idaho and eastern Oregon have a more roughly punctured thorax, strial intervals more elevated and prominent and are of a more greenish color.

² Laporte et Gory, Monographie des Buprestidæ, Vol. IV, p. 109, pl. 19, fig. 107, 1841.

³ Laporte et Gory, Monograph des Buprestidæ (Suppl.), p. 110, pl. 19, fig. 108, 1841.

variation, the division of this species into subspecies and varieties might be carried on indefinitely.

Pæcilonota ferrea Melsheimer. Plate VI, figs. 11 and 12.

"*D. Ferrea*. Brassy-brown above, profoundly rugose punctured; thorax with a glossy dorsal line. . . . 7 (lines) long, $2\frac{3}{4}$ (lines) wide. Virginia.

"Brassy-brown above; head slightly impressed, rugosely punctured; eyes yellowish-brown, thorax equal, confertly rugose-punctured; medial space glossy, black, each side of which, at the anterior margin, with a small black, polished spot, and a similar one each side, at the posterior margin; posterior angles rectilinear: scutellum transverse, concave: elytra punctured, and with rows of glossy oblong-quadrangle spots; lateral submargins transversely rugulose and with irregular, elevated glossy spots and short lines; tips narrowed, short, bidentate; feet and beneath dull cupreous, rugosely punctured: pectus slightly canaliculate.—Received a female specimen, and the only one in my collection, from Professor Haldeman."¹

Pæcilonota ferrea Mels. (Redescribed.)

Oval in form; brassy greenish above, but ordinarily presenting a light grayish color, due to the presence of short white pubescence and of a downy-like substance in the punctures. Antennæ (male) with basal segment cylindrical and coppery, remainder flattened greenish with slight brassy tinge clothed with long bristle-like hairs, front rugosely punctured with irregular, elevated shining area on upper half; thorax bisected by a rather wide, elevated, dark, shining area, this elevated area interrupted by deep, round punctures, extends laterally from the median line, one half the distance to the lateral margin, thence to the margins the area is deeply, closely, rugosely punctate. Sides regularly arcuate with the widest point just in front of the middle. Scutellum transversely elongate, quadrangle. Elytra with few scattered punctures; first five intervals distinct, except near the apex, where they become broken up. The surface of elytra broken by short transverse rugose lines and elevated spots which are either brassy green or greenish-black. Surface covered with scattered, short, white, bristle-like hairs, more numerous near the apex. Apex not much prolonged, more or less distinctly bidentate. Beneath coppery bronze, punctate, the punctures small, scattered along the median portion, larger, deeper and

¹ Melsheimer, F. E., Descriptions of New Species of Coleoptera of the United States in Proceedings of the Academy of Nat. Sci. of Philadelphia, Vol. 2, pp. 144-145, Nov., 1844.

more numerous laterally, each puncture giving rise to a long, fine, white hair, and filled with a cotton-like substance. Male: prosternum densely clothed with long hairs. Last ventral (Pl. VII, fig. 1) widely and deeply sinuate; apices angulated.

Length, from 13 to 16 mm.; width, 5 to 6 mm.

Female: prosternum with few or no hairs. Last ventral (Pl. VII, fig. 2) with shallow sinuation points rounded. Antennæ with first three joints coppery.

Length, 15 to 20 mm.; width, 5.5 to 8 mm.

Twenty-four specimens examined: 13 males and 11 females from Millers, Indiana, and Cicero, Illinois, taken on poplar from July 9 to August 18.

The series of *ferrea* examined show practically no variation other than in size. The greenish-bronze color and the prominently bidentate elytral apices readily distinguish it from other species. So far as my observations go after examining the specimens in a number of collections, this species seems to be rare except in the vicinity of Millers, Indiana. Melsheimer gives the type locality as "Virginia," and a specimen in the American Museum is also labeled Virginia. A specimen in the National Museum is labeled Duluth, Minnesota, and another Williams, Arizona, VI-19.¹ All other specimens seen were from Cicero, Illinois, or Millers, Indiana. No host has been mentioned in connection with this species other than poplar.

LeConte, 1859, p. 204, says, "*P. ferrea* Mels. One specimen western states, others Missouri," and adds, "This species differs from *thureura* by the narrow form and more flattened thorax; the sides of the thorax, diverge a little from the base, so that the widest part is about the middle. It is true that the thorax of *ferrea* is widest at about the middle, while in *thureura* it is widest behind the middle. The body, however, certainly is not narrower in form than *thureura*, if either species presents a narrower form; on the whole, it will be *thureura*."

Pæcilonota debilis Leconte. Plate V, fig. 3.

"5. *P. debilis*, cupreo-ænea, thorace subtransverso, a basi antrorsum angustato, lateribus late rotundatis, rude punctato, costa dorsali latiuscula lævi, alteraque vix distincta, elytris striatis, præcipue confertim punctatis,

¹ Probably *cyanipes* var. *californica*.

spatiis obscuris lævibus variegatus, ad apicem truncatis vix bidentatis, abdominis apice integro. Long 48." ¹

Translation: Coppery-bronze, thorax subtransverse, base hollowed, narrowed, sides widely rounded, roughly punctured dorsal costa somewhat broad and smooth, scarcely distinct (separated) from the others, elytral striæ (especially) quite closely punctate, variegated by obscure smooth spaces, truncate at the apex, scarcely bidentate, the apex of the abdomen whole.

"One specimen, Baltimore, Mr. Wild. I was inclined to believe this a very small specimen of *P. thureura*, and on comparison I find no satisfactory character except size upon which to rest its distinction. Nevertheless the last joint of the abdomen is rounded at the tip, which distinguishes it at once from either sex of the preceding. From the absence of hairs on the prosternum, I suppose that the specimen is a female."

This species is known only by the type and there seems to be little to add to the above. The status of a species erected from a single female is hard to determine. The fact that the last abdominal segment is rounded and almost entire (Pl. VII, fig. 13) certainly seems to separate this single known example from any of our other species. The type is in the LeConte collection at Cambridge, Massachusetts.

Pæcilonota cupripes Casey.²

Specimens have been noted which fit Colonel Casey's description, but the differences are only those one would naturally expect in a species of wide distribution. A large series shows such forms to grade into the typical *cyanipes*. The "more blackish" color is noted in specimens from Texas and Lake Superior region; the "obscure bronze" antennæ in typical examples from Indiana. The scutellum varies greatly in size, shape and color throughout the species, and the prosternum may be either flattened or convex; in a few examples it appears to be slightly concave. The situation of the last ventral segment varies and in the male of typical *cyanipes* it may be abrupt, twice as wide as deep and the apices acute or rounded.

The matter of what constitutes a valid species is certainly a matter of opinion, but unless definite stable characters can be pointed out it

¹ From pp. 204-205 of Leconte, Revision of the Buprestidæ of the United States, Trans. of the Amer. Philosophical Society, Nov., 1859, Vol. 11.

² Casey, Studies in American Buprestidæ, Proc. Wash. Acad. Sci., XI, pp. 168-169, 1909.

is the opinion of the writer that a species will not stand with the majority of workers. *P. cupripes* Casey can not be separated from *P. cyanipes* Say with any degree of certainty and therefore should be considered a synonym of the latter.

Pæcilonota parviceps Casey.¹

The description of *parviceps* is evidently drawn up from a large female and no definite characters are given to distinguish it from *P. cyanipes*.

Pæcilonota bridwelli Van Dyke.² Plate V, figs. 4 and 5.

"Elongate-oval, subdepressed; brassy-green with the exception of the antennæ and tarsal joints which show a cupreous tint; the front and prosternum moderately densely clothed with long white hair, the surface elsewhere including the pronotum and elytra more sparsely clothed and with shorter and more depressed pile; the depressed areas above and the greater portion of the under surface coated with a white powdery substance; antennæ not reaching hind margin of pronotum; front slightly sulcate and coarsely punctured; pronotum less than three fourths as long as broad, side margins almost straight and parallel for posterior three fourths then gradually rounded to apex, disc with smooth median elevated longitudinal line extending from base to apex and broadest at middle, with a shallow and equally broad depression on either side, a secondary, punctured, and irregular ridge outwardly bounding these, the sulci and sides coarsely and cribrately punctured; elytra three times as long as pronotum and slightly broader at humeri, side margins almost straight and parallel for anterior two thirds, thence suddenly narrowed and slightly sinuate at apex, the tips hardly prolonged, but slightly divergent, and truncate at apex, the disc with intervals 1-5 distinctly elevated, rounded, and continuous throughout greater portion, intervals 7 and 9 equally elevated but frequently and broadly interrupted, intervals 6, 8 and 10 less evidently elevated and more interrupted, the more continuous intervals coarsely punctured at irregular distances, the striæ finely punctate; the underside in front rather finely and sparsely punctured in median area and more coarsely and cribrately so at sides, the abdomen with a smooth area down the middle and with sides coarsely and aciculately punctured. Length 13 mm.; breadth 4.5 mm."

"♂. Prosternum rather densely clothed with long silky white hair and the last ventral (Plate VII, fig. 11) deeply and broadly emarginate."

"♀. Prosternum less densely clothed and with shorter hair and the last ventral (Plate VII, fig. 12) with small triangular incisure."

¹ Casey, Studies in American Buprestidæ, Proc. Wash. Acad. Sci., Vol. XI, pp. 168-169, 1909.

² 1918, Van Dyke, New Species of Buprestidæ, etc., Ent. News, XXIX, p. 53.

"The description given above was based upon a single male. The only other specimen seen, the companion female, differs somewhat as regards the sculpturing of the elytra, all of the intervals here being broadly and frequently interrupted so that they present a chain-like or catenulate appearance instead of the more or less regular one which is observed in the male."

"This species differs materially from our other species, by its uniform brassy color, its more evident hairiness, the more distinctly defined longitudinal sulci of the pronotum and the greater elevation of the elytral intervals, resembling in this last regard some of our *Dicer-cas*, such as *D. tenebrosa* Kirby."

"Type male and female from Imperial County, California, June, 1911, collected on flowers by Mr. J. C. Bridwell. The type male in my own collection, the type female in the collection of the University of California. The species named in honor of the collector." Van Dyke.

There seems to be little additional information concerning this rare species. In a recent letter Dr. Van Dyke writes:

"There are two specimens in the National Museum Collection from southern Arizona."

***Pæcilonota montanus* new species. Plate V, figs. 1 and 2.**

Form oblong, oval, flattened; antennæ greenish; front very roughly sculptured, clypeus purplish-bronze and broadly arcuate; vertex with a smooth elevated space extending a short distance towards the clypeus; down the center of this space runs an impressed line. Ground color of the dorsal surface very dark brassy-green, almost black, due to presence of numerous white hairs and small tufts of a cotton-like substance on the unpunctured areas the beetle presents a grayish appearance. Thorax with a median, elevated, smooth line which broadens at the anterior and posterior margins and is flanked on each side at the middle by an irregular, elevated space, entire surface roughly sculptured due to coarse, deep, irregular punctures with elevated smooth margins, the punctures larger near the lateral margins. Scutellum large, transverse and angulate behind. Elytra with the first five intervals convex, entire and prominent, others more or less prominent but interrupted. The whole surface has a very fine granulate appearance; punctures are few and widely scattered, not prominent. Beneath greenish-bronze; prosternum densely clothed with long, white hairs. Last ventral segment (Pl. VII, fig. 9) with a deep, wide, quadrate emargination.

Length of male 15.00 mm.; width 6.50 mm.

Length of female 17.50 mm.; width 7.75 mm.

Female differs by its larger size, darker color, basal joints of antennæ

more brassy. The upper surface lacks the cotton-like tufts, punctures more numerous. Under parts more bronze in color, prosternum punctured and sparsely pubescent; last ventral segment (Pl. VII, fig. 10) very convex, narrowed, with a deep (median), wide, rounded emargination.

Type ♂ and ♀ in author's collection; paratypes sent to Mr. H. E. Burke.

Described from four specimens collected by Mr. J. Brunner at Missoula, Montana, June 16, 1916, on Black Cottonwood (*Populus trichocarpa*). Specimens kindly sent me by Mr. Burke.

Only one other specimen has been seen, a female taken at Makinah, Manitoba, and sent me by Dr. J. M. Swaine, Forest Entomologist for the Dominion Government.

Pæcilonota fraseri new species. Plate V, fig. 6.

Form oblong oval, not flattened, strongly convex, longitudinally; antennæ brassy purple, with numerous fine white hairs, first joint slightly longer than second and one and one half times as great in diameter; front roughly sculptured with a broad, elevated, dark green, grooved line extending down about one third the distance to the clypeus, thence dividing to form an inverted Y, remainder of the front brassy violaceous with long, fine, white pubescence; a transverse ridge separates the clypeus from the front. Ground color of the dorsal surface very dark violet, almost black; thorax with a broad median smooth space extending from posterior to anterior margins (very prominent, being about one half millimeter in width); irregular elevated areas and lines occupy a considerable portion of the thorax; punctures of the thorax medium in size, quite rounded near the median line, larger and more irregular in shape near the lateral margins, and separated by irregular, strongly elevated, smooth lines; scutellum broad, rounded in front and sinuate behind; lateral margins of the thorax rounded, strongly constricted in front; elytra with first four intervals entire, prominent; fifth and sixth intervals distinct near the middle; punctures fine and scattered, shoulders a little more densely punctured; elytra widest behind the middle, narrowing strongly towards the tips; apices short, strongly divergent, tips strongly emarginate (Plate V, fig. 6). Beneath purplish-bronze, finely, rather densely, punctate except along the middle, quite densely pubescent; prosternum smooth and shining along the middle with a few large punctures near the border from which protrude long, fine, white hairs; last ventral segment rather broadly evenly emarginate (Plate VII, fig. 14).

Length male 13.5 to 15 mm.

Width male 5.0 to 6 mm.

Two specimens (males) examined. The type collected on the Fraser River in British Columbia by "Weldt" and loaned me by Mr.